

Claims

1. A method for providing repeated access to a body fluid in an anatomical vessel, comprising:
 - providing an occludable access tube having an anastomosis end;
 - anastomosing the access tube at its anastomosis end to the sidewall of the vessel such that the vessel is in fluid communication with the access tube;
 - occluding the access tube with an occluder at its anastomosis end to prevent the body fluid from entering the access tube; and
 - opening the access tube by selectively moving the occluder so that the occludable access tube is no longer occluded.
2. The method of claim 1, further comprising reoccluding the access tube with an occluder at its anastomosis end to prevent the body fluid from entering the access tube.
3. The method of claim 1, wherein the body fluid is blood.
4. The method of claim 3, further comprising providing fluid communication between the access tube and a blood treatment device.
5. The method of claim 4, further comprising providing fluid communication between the blood treatment device and a second access tube anastomosed to a blood vessel.

6. The method of claim 1, wherein the access tube has an access end opposite from the anastomosis end and wherein the access tube extends percutaneously with the access end being extracorporeally positioned.
7. The method of claim 6, wherein the occluder comprises a removable plug occluder.
8. The method of claim 1, wherein the entire access tube is positioned subcutaneously.
9. The method of claim 1, further comprising a self-sealing access port in fluid communication with the access tube.
10. The method of claim 1, further comprising a self-sealing port device in fluid communication with the occluder.
11. The method of claim 1, wherein the occluder comprises a fluid.
12. The method of claim 1, wherein the occluder comprises a balloon.
13. The method of claim 12, wherein the balloon is toroidal shaped.
14. The method of claim 1, wherein the end of the access tube opposite from the anastomosis end is closed.

15. The method of claim 1, wherein the access tube has an anastomosis component at the anastomosis end.

16. The method of claim 15, wherein the anastomosis component is an anastomosis ring.

17. The method of claim 1, further comprising the step of exposing the body fluid to a pharmacological agent via the occluder.

18. An apparatus for facilitating repeated access to a body fluid in an anatomical vessel, comprising:

an access tube having an anastomosis end, wherein the anastomosis end is adapted for attachment to the sidewall of a vessel at an anastomosis opening, and wherein the access tube is closed at a terminal end opposite from the anastomosis end; and

an occluder adapted to fit within the access tube to block fluid communication between the vessel and the access tube, wherein the occluder can be selectively moved to allow for fluid communication between the vessel and the access tube to be re-established.

19. The apparatus of claim 18, further comprising an anastomosis component at the anastomosis end of the access tube to facilitate anastomosis of the access tube to the sidewall of the vessel.

20. The apparatus of claim 19, wherein the anastomosis component is an anastomosis ring.

21. The apparatus of claim 18, wherein the access tube has an access end opposite from the anastomosis end, and wherein the access tube is adapted to extend percutaneously with the access end being extracorporeally positioned.

22. The apparatus of claim 18, wherein the entire access tube is positioned subcutaneously.

23. The apparatus of claim 18, further comprising a self-sealing access port in fluid communication with the access tube.

24. The apparatus of claim 23, wherein the self-sealing access port is disposed at the end of the access tube opposite from the anastomosis end.

25. The apparatus of claim 18, further comprising a self-sealing port device in fluid communication with the occluder.

26. The apparatus of claim 25, wherein the self-sealing port device is disposed at the end of the access tube opposite from the anastomosis end.

27. The apparatus of claim 18, wherein the occluder comprises a fluid.

28. The apparatus of claim 18, wherein the occluder comprises a balloon.

29. The apparatus of claim 28, wherein the balloon is toroidal shaped.

30. The apparatus of claim 18, wherein the occluder includes a pharmacological agent.

31. An apparatus for facilitating repeated access to a body fluid in an anatomical vessel, comprising:

access tube means for accessing an anastomosed vessel, wherein the access tube means has an anastomosis end that is adapted for attachment to the sidewall of a vessel at an anastomosis opening, and wherein the access tube means is closed at a terminal end opposite from the anastomosis end; and

occluding means for selectively occluding an opening in an anatomical vessel, wherein the occluding means is adapted to fit within the access tube means to block fluid communication between the vessel and the access tube means, wherein the occluding means can be selectively moved to allow for fluid communication between the vessel and the access tube means to be re-established.